

# GRAIN-SIZE ANALYSIS (HYDROMETER METHOD)

1. PROJECT							2. DATE		
3. BORING NUMBER				4. SAMPLE OR SPECIMEN NUMBER			5. CLASSIFICATION		
6. DISH NUMBER				7. GRADUATE NUMBER			8. HYDROMETER NUMBER/TYPE (151H/152H)		
9. DISPERSING AGENT USED							10. QUANTITY		
11. COMPOSITE CORRECTION				12. DECIMAL FINES (Block 29, DD Form 1206)			13. SPECIFIC GRAVITY OF SOLIDS (Block 6n, DD Form 1208) $G_s =$		
14. TIME	15. ELAPSED TIME, (T) minutes	16. ACTUAL HYDROMETER READING ( $R^1$ )	17. CORRECTED READING (R)	18. TEMP (°C)	19. TEMPERATURE AND SPECIFIC GRAVITY CONSTANT (K)	20. EFFECTIVE DEPTH (L)	21. PARTICLE DIAMETER (D), mm	22. PERCENT FINER	
								a. PARTIAL	b. TOTAL
WEIGHT (Grams)	23. DISH + DRY SOIL			<p>The particle diameter (D) is calculated from Stokes' equation using the corrected hydrometer reading. Use the following formula to solve for particle diameter (D): <math>D = K \sqrt{L/T}</math></p> <p>Corrected hydrometer reading (R) = actual hydrometer reading (<math>R^1</math>) + composite correction</p>					
	24. DISH								
	25. DRY SOIL ( $W_s$ )								
<p><math>W_s</math> = Oven-dry weight (in grams) of soil used for hydrometer analysis</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <p><u>Hydrometer graduated in specific gravity (151H)</u></p> <math display="block">\text{Partial Percent Finer} = \left[ \frac{G_s}{G_s - 1} \times \frac{100,000}{W_s} \right] (R - 1)</math> <p>Total Percent Finer = Partial Percent Finer x Decimal fines (Block 12)</p> </div> <div style="width: 48%;"> <p><u>Hydrometer graduated in grams per liter (152H)</u></p> <math display="block">\frac{(R)(a)}{W_s} \times 100</math> <p>(a = specific gravity of solids correction factor)</p> </div> </div>									
<p>26. REMARKS</p> <p style="text-align: right;">FROST GROUP:</p>									
27. TECHNICIAN (Signature)				28. COMPUTED BY (Signature)			29. CHECKED BY (Signature)		